

What is claimed is:

1. An arrangement for generating EUV radiation based on gas discharged produced plasma comprising:

a vacuum chamber provided for the generation of radiation, said vacuum chamber having an axis of symmetry representing an optical axis for the generated EUV radiation upon exiting the vacuum chamber;

a plurality of source modules of identical construction, each of which generating a radiation-emitting plasma and having bundled EUV radiation, said source modules being arranged so as to be uniformly distributed around the optical axis in order to provide successive radiation pulses;

bundled beams of the individual source modules having beam axes which intersect at a point on the optical axis;

a reflector device being provided which is supported so as to be rotatable around the optical axis and which deflects the bundled radiation delivered by the source modules in the direction of the optical axis successively with respect to time; and

a synchronization device being provided for circularly successive triggering of the source modules depending upon the actual rotational position of the reflector device and upon the pulse repetition frequency which is preselected by means of the rotating speed.

2. The arrangement according to claim 1, wherein the reflector device has a plane mirror as rotating reflecting optical component.

3. The arrangement according to claim 1, wherein the reflector device has an optical grating as rotating reflecting optical component.

4. The arrangement according to claim 1, wherein the optical grating is spectrally selective for the desired bandwidth of the EUV radiation that can be transmitted by subsequent optics.

5. The arrangement according to claim 1, wherein the rotating reflector device is cooled in a suitable manner.

6. The arrangement according to claim 1, wherein the individual source modules have separate high-voltage charging circuits.

7. The arrangement according to claim 1, wherein the individual source modules have a common high-voltage charging module which is triggered by the synchronization device and successively triggers the gas discharge in the individual source modules.

8. The arrangement according to claim 1, wherein the synchronization device is coupled directly with the rotating mechanism.

9. The arrangement according to claim 1, wherein the synchronization device has a position-sensitive detector which is struck by a laser beam reflected by the reflector device when reaching a rotational position of the reflector device suitable to start the gas discharge of an individual source module in time.

10. The arrangement according to claim 9, wherein the synchronization device comprises a laser beam which is coupled in in the direction of the optical axis in the direction opposite to the generated EUV radiation and is reflected at the reflector device and, for each source module, triggers an associated detector which initiates the gas discharge for the associated source module.

11. The arrangement according to claim 9, wherein the synchronization device has, for each source module, an associated laser beam and a position-sensitive detector.

12. The arrangement according to claim 1, wherein the source modules comprise an EUV source, debris filter and collector optics.

13. The arrangement according to claim 12, wherein the source modules contain an EUV source with accompanying high-voltage charging circuit.

14. The arrangement according to claim 12, wherein all source modules share a common high-voltage charging module which successively triggers the gas discharge depending upon the triggering derived from the rotational position of the reflector device.

15. The arrangement according to claim 1, wherein the source modules each comprise an EUV source and an optics unit outfitted with a debris filter and collecting optics,

wherein collector optics which are shared by all of the source modules is arranged downstream of the reflector device on the optical axis.

16. The arrangement according to claim 1, wherein the quantity of source modules that is provided is such that the pulse repetition frequency of each individual source module resulting with successive control of the source modules is not higher than 1500 Hz.